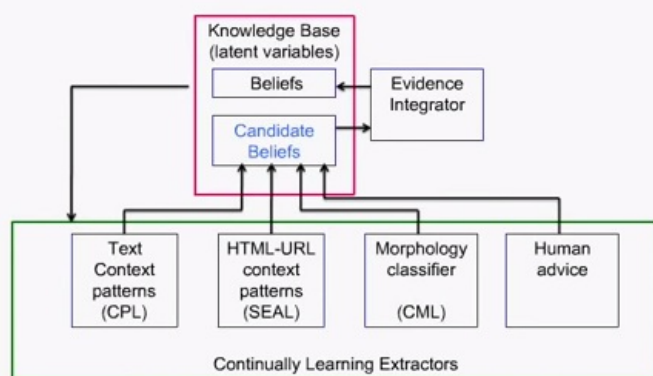


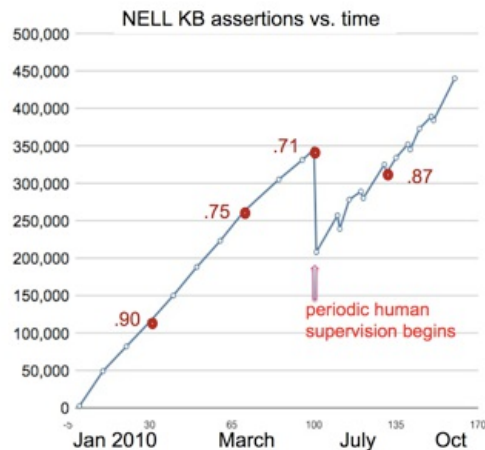
CMU NELL(NEIL)

- Never-Ending Language Learning
- 每天的两个任务
 - 尝试抽取网页中包含的事实
 - 尝试提高阅读能力
- 已获得 5千万个推测/不同的置信度-其中240万个有高置信度
- 目标
 - 持续语言学习机器-产生KB
- 方法
 - 输入
 - 初始的数百个本体类与关系
 - 每个本体类与关系的10-15个实例
 - 5亿个网页+搜索引擎
 - (偶尔的人为干预)
 - 每天不间断执行两个任务

Initial NELL Architecture



- 历史



- 断言数量\准确率随时间的变化, 2010年6月有一次人工干预
- kbbrowser: 已抽取的类和关系
 - <http://rtw.ml.cmu.edu/rtw/kbbrowser/>
- ML & NLP领域为主
- Key Point
 - 多方法耦合学习, 半监督训练
 - 模式发现
 - 本体扩展
 - 优先学习简单可信的学习阶段

Key Idea 4: Cumulative, Staged Learning

Learning X improves ability to learn Y

1. Classify noun phrases (NP's) by category
 2. Classify NP pairs by relation
 3. Discover rules to predict new relation instances
 4. Learn which NP's (co)refer to which latent concepts
 5. Discover new relations to extend ontology
 6. Learn to infer relation instances via targeted random walks
 7. Learn to assign temporal scope to beliefs
 8. Learn to microread single sentences
 9. Vision: co-train text and visual object recognition
 10. Goal-driven reading: predict, then read to corroborate/correct
 11. Make NELL a conversational agent on Twitter
- NEIL : Never-Ending Image Learning
 - 将语言中的名次主体限定在图片范围的应用
 - 相似度极高的两个系统